

# **CLEANING EQUIPMENT BUCKET GRID AND FILTER**

## **Field of the Invention**

This invention relates to cleaning equipment in which cleaning liquid is taken from a container, for example a bucket, and returned thereto after it has been used for dirt removal. It is of particular, but by no means exclusive, application to a cleaning bucket for use with a cleaning element or device, such as floor mop, cleaning cloth or chamois leather which is repeatedly wrung out into the bucket.

## **Background of the Invention**

A problem with such cleaning equipment is that dirt deposited out from the liquid collects at the bottom of the container and that disturbance of the liquid, as when rinsing out a mop for example, washes the collected dirt back into the main body of the liquid. In addition a cleaning element such as a mop can pick up the collected dirt directly. Because of this the container is often emptied and cleaned out before the cleaning additives in the liquid are actually exhausted.

## **Summary of the Invention**

According to the present invention there is provided cleaning equipment comprising a container for cleaning liquid, a wringer mounted on or in the container, a partition element dividing the container into a first compartment which, in use, receives liquid wrung out in the wringer and a second compartment which, in use, receives cleaning liquid and a dirt receiving element for receiving dirt settling from the cleaning liquid in use contained in the second compartment.

1 Preferably, the partition element has a part defining the base of the second  
2 compartment. This part is preferably apertured and the dirt receiving element is  
3 preferably located below the said apertured part of the partition element.

4 Advantageously, the first and second compartments communicate with one  
5 another *via* the dirt receiving element.

6 Conveniently, the partition element is removable from the container to  
7 facilitate cleaning of the container and dirt receiving element.

8 The dirt receiving element may comprise a mat or pad of superposed mesh  
9 layers or may be a non-woven unitary mesh comprising a "jumble" of interlocking or  
10 bonded fibres.

#### 11 **Description of the Drawings**

12 The drawing figure is a diagrammatic side elevational view of a cleaning  
13 bucket grid and filter embodying the present invention.

#### 14 **Description of the Preferred Embodiments**

15 The invention will now be more particularly described, by way of example,  
16 with reference to the accompanying diagrammatic drawing which illustrates, in  
17 vertical cross-section, one example of cleaning equipment according to the  
18 invention.

19 Referring to the drawing, the cleaning equipment shown therein is typically  
20 for domestic or residential use and comprises a container in the form of a bucket 1,  
21 a basket-like wringer 2 including a support flange 8 removably mounted on the  
22 upper lip of the bucket 1 so as to cover only a part of the upper end of the bucket 1,  
23 and a partition element 3 which divides the bucket 1 into a first compartment 4 which

1 receives liquid wrung out in the wringer 2 and a second compartment 5 which  
2 receives cleaning liquid, e.g. clean water and a flocculant chemical.

3 The partition element 3 curves gently away from the wringer 2 in a  
4 downwards direction and has a flat lower part 3a which defines the base of the  
5 second compartment 5.

6 The part 3a of the partition element 3 is provided with a plurality of apertures  
7 and a dirt receiving element 6 is located below the part 3a of the partition element  
8 3. The dirt receiving element 6 may be secured to the underside of the part 3a of  
9 the partition element, typically by adhesive.

10 The element 6 is a three dimensional fibrous mesh structure (or reticulated  
11 foam structure) and may comprise a mat or pad of superposed mesh layers or may  
12 be a non-woven unitary mesh comprising a “jumble” of interlocking or bonded fibres.

13 The first and second compartments 4 and 5, respectively, communicate with  
14 one another *via* the element 6 and the apertures in the part 3a of the partition  
15 element 3. Thus, the water level in each of the two compartments 4 and 5 will  
16 maintain the same level and the water level in the first compartment 4 will not  
17 exceed that in the compartment 5 as cleaning liquid is wrung out in the wringer 2.

18 The flocculant chemical draws small particles out of the suspension and  
19 these particles, together with heavier dirt particles settle into the filter.

20 The form of the element 6 is such that disturbances in the liquid cannot wash  
21 back out into the body of the liquid, to any material extent, dirt particles which are  
22 deposited from the liquid and which settle into the inter-fibre spaces of the element  
23 6. In fact the act of rinsing the cleaning element in the compartment 5 creates a

1 bellows effect producing turbulence to drive the dirt particles into the compartment  
2 4. There is little turbulence in compartment 4 so there is little or no flow back from  
3 compartment 4 to compartment 5.

4 The partition element 3 is removable from within the bucket 1 to facilitate  
5 cleaning of the bucket and fits behind a depending flange 7 on the wringer support  
6 flange 8. Movement of the partition element 3 towards the first compartment 4 is  
7 restrained.

8 In use, a mop or other cleaning implement is rinsed out in the cleaning liquid  
9 in the second compartment 5 and is then wrung out in the wringer 2. The mop or  
10 other cleaning implement is then used to clean, for example, a work surface and  
11 then rinsed again in the cleaning liquid in the second compartment.

12 Dirt removed from the cleaning implement during a rinsing operation is  
13 trapped in the dirt receiving element 6. This avoids the need to change the cleaning  
14 liquid too frequently.

15 Ideally, the dirt receiving element is a re-usable unit which can be replaced  
16 in the container after removal therefrom and washing out of the collected dirt.

17 Also, the bucket may be of transparent plastics material for observation of the  
18 water condition.

19 The above embodiment is given by way of example only and various  
20 modifications will be apparent to persons skilled in the art without departing from the  
21 scope of the invention as defined by the appended claims. For example, the wringer  
22 could be mounted on a ledge in the bucket rather than be mounted on the upper lip  
23 of the bucket.